

## Abstract

A router includes a multicast packet transmitting unit (201) that multicasts the identifier of the router periodically, a relay determining unit (205) that determines whether a received data packet should be relayed to a router in another segment, an order determining unit (207) that determines, on the basis of information included in multicast packets from the other routers, the router to which the data packet shall be transferred, and a packet relaying unit (206) that, when the data packet is not relayed, notifies the transmission source which transmitted the packet as to the router selected by the order determining unit (207) to be the relay destination and then transfers the data packet to the selected router. Thus, in the end a router suitable for relaying the packet is selected. Since switching of the relay router may be performed merely by following the router redirection message, it is unnecessary to add a new function to a terminal.